

**Amendment to the Claims:**

This listing of claims will replace all prior versions, and listings, of claims in the application.

Claim 1 (Previously Presented): An ethylene interpolymers having the following properties:

- i) a number average molecular weight ( $M_n$ ) from 1,000 to 9,000; and
  - ii) a Brookfield Viscosity (measured at 149°C /300°F) from 500 to 9,000 cP; and
- wherein the interpolymers comprises a high weight average molecular weight polymer component ( $M_{wH}$ ) and a low weight average molecular weight polymer component ( $M_{wL}$ ), and wherein the ratio  $M_{wH}/M_{wL}$  is from about 1.5 to about 20.

Claim 2 (Previously Presented): The ethylene interpolymers of Claim 1, wherein the interpolymers has iii) a density from 0.88 to 1.06 g/cm<sup>3</sup>.

Claim 3 (Previously Presented): The ethylene interpolymers of Claim 2, wherein the interpolymers is derived from olefinic comonomer reactants, comprising at least ethylene and styrene, and has iii) a density from 0.931 to 1.06 g/cm<sup>3</sup>.

Claim 4 (Previously Presented): The ethylene interpolymers of Claim 2, wherein the interpolymers has iii) a density from 0.88 to 0.93 g/cm<sup>3</sup>.

Claim 5 (Previously Presented): The ethylene interpolymers of Claim 4, wherein the interpolymers has the following properties:

- i) a density from 0.89 to 0.92 g/cm<sup>3</sup>;
  - ii) a number average molecular weight ( $M_n$ ) from 1250 to 7,000; and
  - iii) a Brookfield Viscosity (measured at 149°C/300°F) from 1,000 to 6,000 cP;
- and wherein, when the one or more tackifiers are added, in an amount from 20 to 35 percent by weight (based on the combined weight of interpolymers and tackifier), to said ethylene interpolymers, the resulting composition has the following properties:
- a) a Brookfield Viscosity (measured at 177°C/350°F) from 500 to 1,400 cP;

- b) a Peel Adhesion Failure Temperature (PAFT) greater than, or equal to, 115°F;  
and
- c) a Shear Adhesion Failure Temperature (SAFT) greater than, or equal to, 150°F;  
and
- d) 100% paper tear from 35 to 140°F.

Claim 6 (Previously Presented): The ethylene interpolymer of Claim 4, wherein the interpolymer has the following properties:

- i) a density from 0.895 to 0.915 g/cm<sup>3</sup>;
  - ii) a number average molecular weight (Mn) from 1500 to 6,000; and
  - iii) a Brookfield Viscosity (measured at 149°C/300°F) from 1,500 to 5,000 cP;
- and wherein, when the one or more tackifiers are added, in an amount from 20 to 35 percent by weight (based on the combined weight of interpolymer and tackifier), to said ethylene interpolymer, then the resulting composition has the following properties:

- a) a Brookfield Viscosity (measured at 177°C/350°F) from 750 to 1,200 cP;
- b) a Peel Adhesion Failure Temperature (PAFT) greater than, or equal to, 120°F;  
and
- c) a Shear Adhesion Failure Temperature (SAFT) greater than, or equal to, 170°F;  
and
- d) a 100% paper tear from 0 to 140°F.

Claim 7 (Previously Presented): The ethylene interpolymer of Claim 4, wherein said interpolymer is a copolymer of ethylene/propylene, ethylene/1-butene, ethylene/4-methyl-1-pentene, ethylene/1-pentene, ethylene/1-hexene or ethylene/1-octene.

Claim 8 (Canceled)

Claims 9-17 (Canceled)

Claim 18 (Previously Presented): The ethylene interpolymers of Claim 1, produced by a process comprising:

- a) contacting one or more olefinic monomers in the presence of at least a high molecular weight catalyst having a reactivity ratio  $r_1^H$ , and at least a low molecular weight catalyst having a reactivity ratio  $r_1^L$ , in a single reactor; and
- b) effectuating the polymerization of the olefinic monomers in the reactor, to obtain an olefin polymer; and

wherein each of  $r_1^H$  and  $r_1^L$  is from about 1 to about 200, and  $r_1^H/r_1^L$  is from 0.03 to 30; and/or

wherein the high molecular weight catalyst is capable of producing a polymer with a high molecular weight  $M_{wH}$  from the monomers, under selected polymerization conditions, and the low molecular weight catalyst is capable of producing a polymer with a low molecular weight  $M_{wL}$  from the same monomers, under substantially the same polymerization conditions, and wherein  $M_{wH}/M_{wL}$  is from 1.5 to 20.

Claim 19 (Previously Presented): The ethylene interpolymers of Claim 1, wherein the interpolymers contain the residue of at least two catalysts, a first catalyst having a reactivity ratio  $r_1^H$ , and a second catalyst having a reactivity ratio  $r_1^L$ , and wherein each of  $r_1^H$  and  $r_1^L$ , independently, is a number from 1 to 200, and  $r_1^H/r_1^L$  is a number from 0.03 to 30.

Claim 20 (Previously Presented): The ethylene interpolymers of Claim 19, wherein the ratio  $r_1^H/r_1^L$  is a number greater than 1.

Claim 21 (Previously Presented): The ethylene interpolymers of Claim 1, wherein the interpolymers have a number average molecular weight from 2,000 to 9,000.

Claim 22 (Previously Presented): The ethylene interpolymer of Claim 1, wherein the interpolymer as a Brookfield Viscosity (measured at 149°C (300°F)) from 1,500 to 9,000 cP.

Claim 23 (Previously Presented): The ethylene interpolymer of Claim 1, wherein the ratio,  $M_{wH}/M_{wL}$ , is from about 2 to about 10.

Claim 24 (Previously Presented): The ethylene interpolymer of Claim 1, wherein the interpolymer has a molecular weight distribution ( $M_w/M_n$ ) from about 2 to about 20.

Claim 25 (Previously Presented): The ethylene interpolymer of Claim 1, wherein, when one or more tackifiers are added, in an amount of from 15 to 40 percent, by weight (based on the combined weight of interpolymer and tackifier), to said ethylene interpolymer, the resulting composition has the following properties:

- a) a Brookfield Viscosity (measured at 177°C/350°F) from 400 to 2,000 cP;
- b) a Peel Adhesion Failure Temperature (PAFT) of greater than, or equal to, 110°F; and
- c) a Shear Adhesion Failure Temperature (SAFT) of greater than, or equal to, 140°F.